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EXAMINER	
KURIEN, CHRISTEN A	

ART UNIT	PAPER NUMBER
2427	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/903,014	OHATA ET AL.	
	Examiner	**Art Unit**	
	CHRISTINE KURIEN	2427	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,7-9,12-14,23,24,28-31,34-36 and 45-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,7-9,12-14,23,24,28-31,34-36 and 45-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 7-9, 12-14, 23, 24, 28-31, 34-36, 45-47, and 49 filed 11/08/2010 have been fully considered but they are not persuasive. The newly added limitations are taught by the combination of references.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim(s) 1-2, 7, 9, 12-13, 23-24, 28-29, 31, 34-35, 45-47, and 49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Riggins, III (US 6,195,090) in view of Limor et al. (US 2002/0090217), Koehler et al. (US20010042105A1), and Suzuki et al. (US006608649B2).

As to claim 1, Riggins teaches a digital broadcast signal processing apparatus comprising:

a memory section for storing GPS position information received from a movable body that is an object in a corresponding program (Fig. 4, col. 7, lines 25-42); and

a multiplex processing section for multiplexing on a digital broadcast signal of the corresponding program 1) GPS position information received from the movable body, 2) GPS position information and imaging area information received from an imaging apparatus (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45) mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and position information of the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26), a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of the race car track and is mechanically independent of car, or "movable body", 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats

116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give

the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 2, Riggins teaches a digital broadcast signal processing apparatus comprising:

a mapping processing section for mapping on a map position information of a movable body that is an object in a corresponding program and position information of an imaging apparatus on a basis of information of a map (See Limor Fig. 1; paragraphs 0029 and 0040; e.g. the GPS signal gives coordinates on a map), GPS position information received from the movable body and GPS position information received from the imaging apparatus (Figs. 3 and 4; col. 7, lines 25-42; col. 9, line 47-col. 10, line 11); and

a multiplex processing section for multiplexing mapping information generated by said mapping processing section on a digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view)

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not

expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. (“Limor”) teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific

object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the

corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera

control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 7, Riggins teaches said multiplex processing section multiplexes profile information concerning the movable body on the digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45).

As to claims 9 and 31, Riggins teaches a digital broadcast signal processing apparatus comprising:

a mapping processing section for separating from a digital broadcast signal that was received or reproduced GPS position information of a movable body that is an object in a corresponding program and GPS position information of an imaging apparatus, to map position information of the movable body and the imaging apparatus on a map on a basis of information of a map, GPS position information of the movable

body and GPS position information of the imaging apparatus (Figs. 3 and 4; col. 7, lines 25-42; col. 9, line 47-col. 10, line 11; and

a multiplex processing section for multiplexing mapping information generated in said mapping processing section on a digital broadcast signal of the corresponding program (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is

an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the

plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 12, Riggins teaches a digital broadcast signal processing apparatus comprising:

a memory section for storing profile information concerning a movable body that is an object in a corresponding program (Fig. 4; col. 7, lines 25-42); and

a multiplex processing section for multiplexing on a digital broadcast signal the profile information, position information of an imaging apparatus that was received or reproduced (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45), and mapping information (e.g. GPS data) indicating position information of the imaging apparatus on a map; and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u>.

In analogous art, Limor et al. (“Limor”) teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats

116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give

the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 13, Riggins teaches wherein position information of the movable body that is the object, mapping information generated by mapping of the position information of the movable body that is the object and/or position information of an imaging apparatus on a map, imaging area information by the imaging apparatus and object information by the imaging apparatus is multiplexed on the digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45).

Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and

40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed

simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003).

As to claim 23, Riggins teaches a digital broadcast signal processing method comprising the steps of:

reading out GPS position information received from a movable body that is an object in a corresponding program (Fig. 4—41; col. 7, lines 25-42);

reading out GPS position information received from an imaging apparatus; and

multiplexing GPS position information received from the movable body, GPS position information received from the imaging apparatus, and mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26) on a digital broadcast signal of the corresponding program (Figs. 2-5; col. 11, line 65-col. 12, line

31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view)

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of the race car track and is mechanically independent of car, or "movable body", 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor

paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph

0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed

simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 24, Riggins teaches a digital broadcast signal processing method comprising the steps of:

mapping on a map position information of a movable body that is an object in a corresponding program and position information of an imaging apparatus on a map on a basis of information of a map, GPS position information received from the movable body

and GPS position information received from the imaging apparatus, (Figs. 3 and 4; col. 7, lines 25-42; col. 9, line 47-col. 10, line 11); and

multiplexing mapping information generated in said mapping step on a digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view)

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is

an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the

plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 28, Riggins teaches a digital broadcast signal processing method comprising the steps of:

reading out GPS position information received from a movable body that is an object in a corresponding program (Fig. 4—41; col. 7, lines 25-42);

reading out imaging area information by an imaging apparatus (Fig. 4—41; col. 7, lines 25-42);

reading out GPS position information received from an imaging apparatus; and multiplexing GPS position information received from the movable body, GPS position information received from the imaging apparatus, the imaging area information, and mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26) on a digital broadcast signal of a the corresponding program (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view)

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is

operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of the race car track and is mechanically independent of car, or "movable body", 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032,

and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the

corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera

control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 29, Riggins teaches multiplexing profile information concerning the movable body on the digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45).

Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera.

In analogous art, Limor et al. (“Limor”) teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is

disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed

simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003).

As to claim 34, Riggins teaches a digital broadcast signal processing method comprising the steps of:

reading out profile information concerning a movable body that is an object in a corresponding program (Fig. 4—41; col. 7, lines 25-42);

reading out GPS position information of an imaging apparatus; and multiplexing the profile information concerning the movable body, the GPS position information of the movable body (e.g. telemetry data), and mapping information indicating position information of the movable body on a map (e.g. near video quality three-dimensional

model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26) on a digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of

the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the

specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or "imaging apparatus", to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed

simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 35, Riggins teaches wherein position information of the movable body that is the object, mapping information generated by mapping of the position information of the movable body that is the object and/or position information of an imaging apparatus on a map, imaging area information by the imaging apparatus and object

information by the imaging apparatus is multiplexed on the digital broadcast signal (Figs. 2-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45).

Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera.

In analogous art, Limor et al. (“Limor”) teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the

corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode

for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003).

As to claim 45, Riggins teaches a digital broadcast signal processing method comprising the processes of:

multiplexing on a picture signal GPS position information received from a movable body that is an object in a corresponding program and GPS position information received from an imaging apparatus (Fig. 4—74; col. 7, lines 25-42), and mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26 and Limor Fig. 1; paragraphs 0029 and 0040); and

transmitting the picture signal after the multiplexing process as a digital broadcast signal (Fig. 4—77; col. 7, lines 25-42); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not

expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u>.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of the race car track and is mechanically independent of car, or "movable body", 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific

object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the

corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u> (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera

control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 46, Riggins teaches s digital broadcast signal processing method comprising the processes of:

multiplexing on a picture signal GPS position information of a movable body that is an object in a corresponding program, GPS position information of an imaging apparatus, and mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26) (Fig. 4—74; col. 7, lines 25-42); and

transmitting the picture signal after the multiplexing process as a digital broadcast signal (Fig. 4—77; col. 7, lines 25-42); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for

displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or "imaging apparatus", 18 acquires imaging area information of the race car track and is mechanically independent of car, or "movable body", 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the

competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that

is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed

simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 47, Riggins teaches a digital broadcast signal processing method comprising the processes of:

multiplexing on a picture signal mapping information generated by mapping on a position information of a movable body that is an object in a corresponding program and position information of an imaging apparatus (Figs. 3 and 4—74; col. 7, lines 25-42) on a basis of information of a map (See Limor Fig. 1; paragraphs 0029 and 0040; e.g. the GPS signal gives coordinates on a map), GPS position information received from the movable body (e.g. telemetry data) and GPS position information received from the imaging apparatus; and

transmitting the picture signal after the multiplexing process as a digital broadcast signal (Fig. 4—77; col. 7, lines 25-42); and a display (e.g. TV set 27 or

computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously</u>.

In analogous art, Limor et al. (“Limor”) teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and 40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions

of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph

0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or “imaging apparatus”, to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed

simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

As to claim 49, Riggins teaches a digital broadcast signal processing method comprising the processes of:

multiplexing on a picture signal profile information concerning a movable body that is an object in a corresponding program and GPS position information of an imaging apparatus (Fig. 4—74; col. 7, lines 25-42) and mapping information (e.g. telemetry data and GPS data) indicating position information of the moveable body and

the imaging apparatus on a map (e.g. near video quality three-dimensional model of the racetrack and competing vehicles) (See Riggins col. 12 lines 7-26); and

transmitting the picture signal after the multiplexing process as a digital broadcast signal (Fig. 4—77; col. 7, lines 25-42); and a display (e.g. TV set 27 or computer display 33) for displaying a plurality of modes (See Riggins Fig. 7, racecar view and telemetry view).

Riggins does not teach display objects related to the selection of each of the plurality of modes for display purposes, the plurality of modes comprising: a mode for displaying a specific object chasing function,), a mode for displaying a view from a specific camera, a mode for displaying specific profile information. Riggins does not expressly teach GPS position information received from an imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, and <u>wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously.</u>

In analogous art, Limor et al. ("Limor") teaches GPS position information received from an imaging apparatus (Figs. 1 and 2—camera station 18) that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body (Figs. 1 and 3—car 12) that is an object in the corresponding program (Figs. 1-4; paragraphs 22-26, 29, 31, 39 and

40—camera station, or “imaging apparatus”, 18 acquires imaging area information of the race car track and is mechanically independent of car, or “movable body”, 12). Limor teaches wherein, when a specific object chasing function is selected (See Limor paragraphs 0029; when cameras are assigned to cars), the display maps the positions of the specific object and plurality of movable bodies on the map (See Limor Fig. 1; paragraph 0027 and Riggins Figs. 1-5; col. 11, line 65-col. 12, line 31; col. 9, line 47-col. 10, line 11; col. 2, line 30-col. 3, line 18; col. 5, lines 25-38; col. 6, line 1-col. 7, line 45; e.g. the system displays a three-dimensional model of the actual racetrack, all of the competing vehicles, and camera positions to achieve different angles in order to simulate the race), the plurality of modes comprising: a mode for displaying a specific object chasing function (See Limor Figs. 1 and 5; paragraphs 0027, 0029, 0031-0032, and 0036), matches identification information of the specific object (e.g. speed and GPS information of the assigned car matches the positioning of the camera) (See Limor Fig. 5, 202 and 212; paragraphs 0029 and 0031-0032), and determines whether an image of an apparatus is showing the specific object (See Limor Fig. 5, 212 or 222; paragraph 0036; e.g. is car within range),

wherein, if the specific object chasing function determines that the specific object is included in the image of an imaging apparatus (e.g. car is within range), the image of the imaging apparatus is selected (e.g. continues to collect video signal from current camera) (See paragraph 0036), and

wherein, if the specific object chasing function determines that the specific object is not included in the image of an imaging apparatus (e.g. car is out of range), the

specific object chasing function estimates which imaging apparatus will show the specific object next (See Limor paragraphs 0031-0032), and selects the imaging apparatus that will show the specific object next (See Limor Fig. 5, 224; paragraph 0036; e.g. switches to next camera).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Riggins to teach wherein the data collection station (col. 2, lines 65-67), or "imaging apparatus", to have GPS position information received from the imaging apparatus that is operable to acquire imaging area information concerning the corresponding program and is disposed mechanically independent of a movable body that is an object in the corresponding program, as taught by Limor, in order to point a camera unit at the car as the car moves along the track (Limor: paragraph 40).

Koehler et al. (Koehler) discloses a camera control system. Koehler discloses a plurality of display objects related to the selection of each of the plurality of modes for display purposes (See Fig. 4, e.g. car view 108 represents both the modes for displaying the chasing function and the specific camera and telemetry 114 and stats 116 represent the mode for displaying specific profile information; paragraphs 0027-0029) and a mode for displaying a view from a specific camera (See Fig. 4, car view 108; paragraphs 0027-0029). Koehler also teaches a plurality of display objects, wherein each of the plurality of display objects is related to the selection of one of the plurality of modes, wherein when one of the display objects is selected, the related mode is displayed, wherein each of the plurality of display objects related to the

selection of each of the plurality of modes for display purposes are all displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Koehler teaches wherein each of the plurality of modes designated by each of plurality of user selected display object are displayed simultaneously (See Fig. 4, paragraphs 0027-0029, different car views can be selected from the display of Fig 4, and those objects of car views as seen in Fig. 4 are displayed simultaneously, Fig. 4, shows a plurality of selection modes and they can be selected to show a different car view). Furthermore, Suzuki et al. (Suzuki) discloses a camera control system. Suzuki discloses a display object related to the selection of a mode for mapping for display purposes (See Fig. 4, map list 68; col. 8 lines 39-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Riggins to have a plurality of display objects related to the selection of each of the plurality of modes for display purposes, and a mode for displaying a view from a specific camera, as taught by Koehler and Suzuki, in order to give the users remote from the event a more in depth experience of the event (See Koehler paragraphs 0001-0003, Suzuki, Col. 1. ll. 35-50).

3. Claims 8, 14, 30, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Riggins III (previously cited) in view of Limor (previously cited), Koehler (previously cited),

and Suzuki (previously cited), as applied to claims 7, 12, 29 and 34, and further in view of Yuen et al. (US 2005/0198668; cited in prior Office Action).

As to claims 8, 14, 30, and 36, Riggins III does not specifically teach said profile information includes uniform resource locator (URL) information or mail address information, both being for access to information concerning the movable body.

In analogous art, Yuen et al. ("Yuen") teaches said profile information includes uniform resource locator (URL) information or mail address information, both being for access to information concerning the movable body (paragraph 51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Riggins III and Limor by having the profile information include uniform resource locator (URL) information or mail address information, both being for access to information concerning the movable body, as taught by Yuen, so as to provide additional information about the data provided on the display (Yuen: paragraph 51).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE KURIEN whose telephone number is (571)270-5694. The examiner can normally be reached on Mon.-Thurs., 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571)272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTINE KURIEN/
Examiner, Art Unit 2427

/Scott Beliveau/
Supervisory Patent Examiner, Art Unit 2427